

Sequence Listing

<110> Botstein, David

Desnoyers, Luc

Ferrara, Napoleone

Fong, Sherman

Gao, Wei-Qiang

Goddard, Audrey

Gurney, Austin L.

Pan, James

Roy, Margaret Ann

Stewart, Timothy A.

Tumas, Daniel

Watanabe, Colin K.

Wood, William I.

<120> Secreted and Transmembrane Polypeptides and Nucleic Acids Encoding the Same

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<150> 60/112,851

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- <151> 1999-06-02
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- cgggatgacc cgccgggacc cgctcgcaaa taaggtggcc ctggtaacgg 150
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- atgtggggaa ggcggaggac cgggagcggc tggtggccac ggctgtgaag 350



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Phe Ala Ile Ala Arg Arg Leu Ala Gln Asp Gly Ala His Val Val
50 55 60

Val Ser Ser Arg Lys Gln Gln Asn Val Asp Gln Ala Val Ala Thr
65 70 75



Leu Gln Gly Glu Gly Leu Ser Val Thr Gly Thr Val Cys His Val 80 Gly Lys Ala Glu Asp Arg Glu Arg Leu Val Ala Thr Ala Val Lys 105

Leu His Gly Gly Ile Asp Ile Leu Val Ser Asn Ala Ala Val Asn 115

Pro Phe Phe Gly Ser Ile Met Asp Val Thr Glu Glu Val Trp Asp 135

Lys Thr Leu Asp Ile Asn Val Lys Ala Pro Ala Leu Met Thr Lys

Lys Thr Leu Asp 11e Asn Val Lys Ala Pro Ala Leu Met Thr Lys
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Ala Val Val Pro Glu Met Glu Lys Arg Gly Gly Gly Ser Val Val
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Ile Val Ser Ser Ile Ala Ala Phe Ser Pro Ser Pro Gly Phe Ser 170 175 180

Pro Tyr Asn Val Ser Lys Thr Ala Leu Leu Gly Leu Thr Lys Thr 185 190 195

Leu Ala Ile Glu Leu Ala Pro Arg Asn Ile Arg Val Asn Cys Leu 200 205 210

Ala Pro Gly Leu Ile Lys Thr Ser Phe Ser Arg Met Leu Trp Met
215 220 225

Asp Lys Glu Lys Glu Glu Ser Met Lys Glu Thr Leu Arg Ile Arg

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Cys Ser Glu Asp Ala Ser Tyr Ile Thr Gly Glu Thr Val Val 260 265 270

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Gly Trp Gly Gly Leu Arg Leu Leu Asn Gly Leu Pro Pro Gly Ser 35 40 45

Phe Val Pro Arg Pro His Thr Ala Pro Leu Gly Gly Ala His Ala 50 55 60

His Val Leu Gly Met Val Pro Pro Ala Cys Leu Pro Gly Asp Glu
65 70 75

Val Gly Ser Glu Gln Arg Gly Glu Gln Val Thr Asn Gly Arg Glu 80 85 90

Ala Gly Ala Glu Leu Leu Thr Glu Val Asn Arg Leu Gly Ser Gly 95 100 105

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Pro	Glu	Leu	Cys	Leu 155	Glu	Glu	Leu	Asp	Ala 160	Ala	Ile	Pro	Gly	Ser 165
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Pro	Pro	Ala	Thr	Ala 185	Ser	Glu	Trp	Arg	Leu 190	Ala	Gln	Ala	Gln	Gln 195
Lys	Ile	Arg	Glu	Leu 200	Ala	Ile	Asn	Ile	Arg 205	Met	Lys	Glu	Glu	Leu 210
Ile	Gly	Glu	Leu	Val 215	Arg	Thr	Gly	Lys	Ala 220	Ala	Gln	Ala	Leu	Asn 225
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Arg	Gln	His	Arg	Val 350	Lys	Glu	Leu	Glu	Leu 355	Lys	His	Glu	Gln	Gln 360
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Arg	Lys	Arg	Arg	Ser 380	Gly	Ser	Asn	Gly	Ser 385	Val	Val	Ser	Leu	Glu 390
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Glu	Glu	Leu	His	Lys 425	Arg	Glu	Ala	Ile	Leu 430	Ala	Lys	Lys	Glu	Ala 435
Leu	Met	Gln	Glu	Lys 440	Thr	Gly	Leu	Glu	Ser 445	Lys	Arg	Leu	Arg	Ser 450
Ser	Gln	Ala	Leu	Asn 455	Glu	Asp	Ile	Val	Arg 460	Val	Ser	Ser	Arg	Leu 465
Glu	His	Leu	Glu	Lys 470	Glu	Leu	Ser	Glu	Lys 475	Ser	Gly	Gln	Leu	Arg 480
Gln	Gly	Ser	Ala	Gln 485	Ser	Gln	Gln	Gln	Ile 490	Arg	Gly	Glu	Ile	Asp 495
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Gln	His	Gln	Gln	Gln 605	Ile	Ala	Phe	Ser	Glu 610	Leu	Glu	Met	Gln	Leu 615
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His	Leu	Gly	Glu	Gly 665	Leu	Ala	Asp	Ser	Arg 670	Arg	Gln	Tyr	Glu	Ala 675
Arg	Ile	Gln	Ala	Leu 680	Glu	Lys	Glu	Leu	Gly 685	Arg	Tyr	Met	Trp	Ile 690



Asn Gln Glu Leu Lys Gln Lys Leu Gly Gly Val Asn Ala Val Gly 705

His Ser Arg Gly Gly Glu Lys Arg Ser Leu Cys Ser Glu Gly Arg 715

Gln Ala Pro Gly Asn Glu Asp Glu Leu His Leu Ala Pro Glu Leu 735

Leu Trp Leu Ser Pro Leu Thr Glu Gly Ala Pro Arg Thr Arg Glu 750

Glu Thr Arg Asp Leu Val His Ala Pro Leu Pro Leu Thr Trp Lys

755 760 765

Arg Ser Ser Leu Cys Gly Glu Glu Gln Gly Ser Pro Glu Glu Leu 770 775 780

Arg Gln Arg Glu Ala Ala Glu Pro Leu Val Gly Arg Val Leu Pro
785 790 795

Val Gly Glu Ala Gly Leu Pro Trp Asn Phe Gly Pro Leu Ser Lys 800 805 810

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Arg Lys Asn Pro Leu 830

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Gly Ser Gly Leu Trp Leu Cys Gln Pro Thr Pro Arg Cys Gly Asn 35 40 45

Lys Ile Tyr Asn Pro Ser Glu Gln Cys Cys Tyr Asp Asp Ala Ile
50 55 60

Leu Ser Leu Lys Glu Thr Arg Arg Cys Gly Ser Thr Cys Thr Phe
65 70 75

Trp Pro Cys Phe Glu Leu Cys Cys Pro Glu Ser Phe Gly Pro Gln
80 85 90

Gln Lys Phe Leu Val Lys Leu Arg Val Leu Gly Met Lys Ser Gln 95 100 105

Cys His Leu Ser Pro Ile Ser Arg Ser Cys Thr Arg Asn Arg Arg 110 115 120

His Val Leu Tyr Pro 125

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35 40 45

Glu Lys Arg Glu His Ala Thr Arg Asp Gly Pro Gly Arg Val Asn
50 55 60

Glu Leu Gly Arg Pro Ala Arg Asp Glu Gly Gly Ser Gly Arg Asp
65 70 75

Trp Lys Ser Lys Ser Gly Arg Gly Leu Ala Gly Arg Glu Pro Trp
80 85 90

Ser Lys Leu Lys Gln Ala Trp Val Ser Gln Gly Gly Gly Ala Lys 95 100 105

Ala Gly Asp Leu Gln Val Arg Pro Arg Gly Asp Thr Pro Gln Ala

Glu Ala Leu Ala Ala Ala Gln Asp Ala Ile Gly Pro Glu Leu 125 130 135

Ala Pro Thr Pro Glu Pro Pro Glu Glu Tyr Val Tyr Pro Asp Tyr
140 145 150

Arg Gly Lys Gly Cys Val Asp Glu Ser Gly Phe Val Tyr Ala Ile 155 160 165

Gly Glu Lys Phe Ala Pro Gly Pro Ser Ala Cys Pro Cys Leu Cys 170 175 180

Thr Glu Glu Gly Pro Leu Cys Ala Gln Pro Glu Cys Pro Arg Leu 185 190 195

His Pro Arg Cys Ile His Val Asp Thr Ser Gln Cys Cys Pro Gln 200 205 210

Cys Lys Glu Arg Lys Asn Tyr Cys Glu Phe Arg Gly Lys Thr Tyr 215 220 225

Gln Thr Leu Glu Glu Phe Val Val Ser Pro Cys Glu Arg Cys Arg

Cys Glu Ala Asn Gly Glu Val Leu Cys Thr Val Ser Ala Cys Pro 255

Gln Thr Glu Cys Val Asp Pro Val Tyr Glu Pro Asp Gln Cys Cys 260

Pro Ile Cys Lys Asn Gly Pro Asn Cys Phe Ala Glu Thr Ala Val 285

Ile Pro Ala Gly Arg Glu Val Lys Thr Asp Glu Cys Thr Ile Cys 300

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Met Cys Thr Arg His Glu Cys Arg Gln Met 320 325

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20 25 30

His Val Trp Lys Val Ser Asp Leu Pro Arg Gln Trp Thr Pro Lys
35 40 45

Asn Thr Ser Cys Asp Ser Gly Leu Gly Cys Gln Asp Thr Leu Met
50 55 60

Leu Ile Glu Ser Gly Pro Gln Val Ser Leu Val Leu Ser Lys Gly 65 70 75

Cys Thr Glu Ala Lys Asp Gln Glu Pro Arg Val Thr Glu His Arg
80 85 90

Met Gly Pro Gly Leu Ser Leu Ile Ser Tyr Thr Phe Val Cys Arg 95 100 105

Gln Glu Asp Phe Cys Asn Asn Leu Val Asn Ser Leu Pro Leu Trp 110 115 120

Ala Pro Gln Pro Pro Ala Asp Pro Gly Ser Leu Arg Cys Pro Val 125 130 135

Cys Leu Ser Met Glu Gly Cys Leu Glu Gly Thr Thr Glu Glu Ile 140 145 150

Cys Pro Lys Gly Thr Thr His Cys Tyr Asp Gly Leu Leu Arg Leu 155 160 165

Arg Gly Gly Gly Ile Phe Ser Asn Leu Arg Val Gln Gly Cys Met

Pro Gln Pro Gly Cys Asn Leu Leu Asn Gly Thr Gln Glu Ile Gly 185 190 195

Pro Val Gly Met Thr Glu Asn Cys Asn Arg Lys Asp Phe Leu Thr 200 205 210

Cys His Arg Gly Thr Thr Ile Met Thr His Gly Asn Leu Ala Gln 215 220 225

Glu Pro Thr Asp Trp Thr Thr Ser Asn Thr Glu Met Cys Glu Val







235 240 230 Gly Gln Val Cys Gln Glu Thr Leu Leu Leu Ile Asp Val Gly Leu Thr Ser Thr Leu Val Gly Thr Lys Gly Cys Ser Thr Val Gly Ala Gln Asn Ser Gln Lys Thr Thr Ile His Ser Ala Pro Pro Gly Val 275 Leu Val Ala Ser Tyr Thr His Phe Cys Ser Ser Asp Leu Cys Asn Ser Ala Ser Ser Ser Ser Val Leu Leu Asn Ser Leu Pro Pro Gln Ala Ala Pro Val Pro Gly Asp Arg Gln Cys Pro Thr Cys Val Gln Pro Leu Gly Thr Cys Ser Ser Gly Ser Pro Arg Met Thr Cys Pro Arg Gly Ala Thr His Cys Tyr Asp Gly Tyr Ile His Leu Ser Gly 350 Gly Gly Leu Ser Thr Lys Met Ser Ile Gln Gly Cys Val Ala Gln 365 Pro Ser Ser Phe Leu Leu Asn His Thr Arg Gln Ile Gly Ile Phe 380 Ser Ala Arg Glu Lys Arg Asp Val Gln Pro Pro Ala Ser Gln His Glu Gly Gly Gly Ala Glu Gly Leu Glu Ser Leu Thr Trp Gly Val 415 Gly Leu Ala Leu Ala Pro Ala Leu Trp Trp Gly Val Val Cys Pro 430

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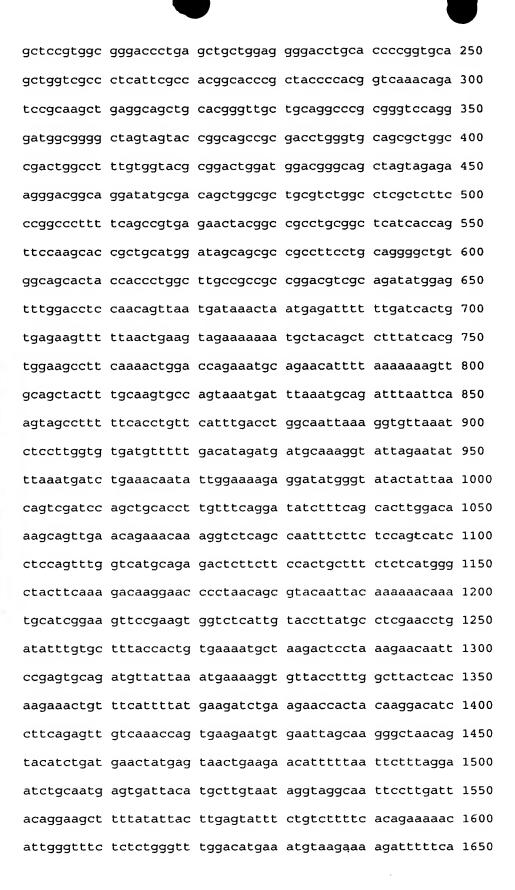
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<212> DNA

<213> Homo sapiens

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<211> 487

<212> PRT

<213> Homo sapiens

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Tyr Phe Gly Thr Lys Thr Arg Tyr Glu Asp Val Asn Pro Val Leu
50 55 60

Leu Ser Gly Pro Glu Ala Pro Trp Arg Asp Pro Glu Leu Leu Glu
65 70 75

Gly Thr Cys Thr Pro Val Gln Leu Val Ala Leu Ile Arg His Gly
80 85 90

Thr Arg Tyr Pro Thr Val Lys Gln Ile Arg Lys Leu Arg Gln Leu 95 100 105

His Gly Leu Leu Gln Ala Arg Gly Ser Arg Asp Gly Gly Ala Ser

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Leu	Trp	Tyr	Ala	Asp 140	Trp	Met	Asp	Gly	Gln 145	Leu	Val	Glu	Lys	Gly 150
Arg	Gln	Asp	Met	Arg 155	Gln	Leu	Ala	Leu	Arg 160	Leu	Ala	Ser	Leu	Phe 165
Pro	Ala	Leu	Phe	Ser 170	Arg	Glu	Asn	Tyr	Gly 175	Arg	Leu	Arg	Leu	Ile 180
Thr	Ser	Ser	Lys	His 185	Arg	Cys	Met	Asp	Ser 190	Ser	Ala	Ala	Phe	Leu 195
Gln	Gly	Leu	Trp	Gln 200	His	Tyr	His	Pro	Gly 205	Leu	Pro	Pro	Pro	Asp 210
Val	Ala	Asp	Met	Glu 215	Phe	Gly	Pro	Pro	Thr 220	Val	Asn	Asp	Lys	Leu 225
Met	Arg	Phe	Phe	Asp 230	His	Cys	Glu	Lys	Phe 235	Leu	Thr	Glu	Val	Glu 240
Lys	Asn	Ala	Thr	Ala 245	Leu	Tyr	His	Val	Glu 250	Ala	Phe	Lys	Thr	Gly 255
Pro	Glu	Met	Gln	Asn 260	Ile	Leu	Lys	Lys	Val 265	Ala	Ala	Thr	Leu	Gln 270
Val	Pro	Val	Asn	Asp 275	Leu	Asn	Ala	Asp	Leu 280	Ile	Gln	Val	Ala	Phe 285
Phe	Thr	Cys	Ser	Phe 290	Asp	Leu	Ala	Ile	Lys 295	Gly	Val	Lys	Ser	Pro 300
Trp	Cys	Asp	Val	Phe 305	Asp	Ile	Asp	Asp	Ala 310	Lys	Val	Leu	Glu	Tyr 315
Leu	Asn	Asp	Leu	Lys 320	Gln	Tyr	Trp	Lys	Arg 325	Gly	Tyr	Gly	Tyr	Thr 330
Ile	Asn	Ser	Arg	Ser 335	Ser	Cys	Thr	Leu	Phe 340	Gln	Asp	Ile	Phe	Gln 345
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Ser	Ser	Pro	Val	Ile 365	Leu	Gln	Phe	Gly	His 370	Ala	Glu	Thr	Leu	Leu 375
Pro	Leu	Leu	Ser	Leu 380	Met	Gly	Tyr	Phe	Lys 385	Asp	Lys	Glu	Pro	Leu 390
Thr	Ala	Tyr	Asn	Tyr 395	Lys	Lys	Gln	Met	His 400	Arg	Lys	Phe	Arg	Ser 405

Gly Leu Ile Val Pro Tyr Ala Ser Asn Leu Ile Phe Val Leu Tyr 410 415 420

His Cys Glu Asn Ala Lys Thr Pro Lys Glu Gln Phe Arg Val Gln 425 430 435

Met Leu Leu Asn Glu Lys Val Leu Pro Leu Ala Tyr Ser Gln Glu
440 445 450

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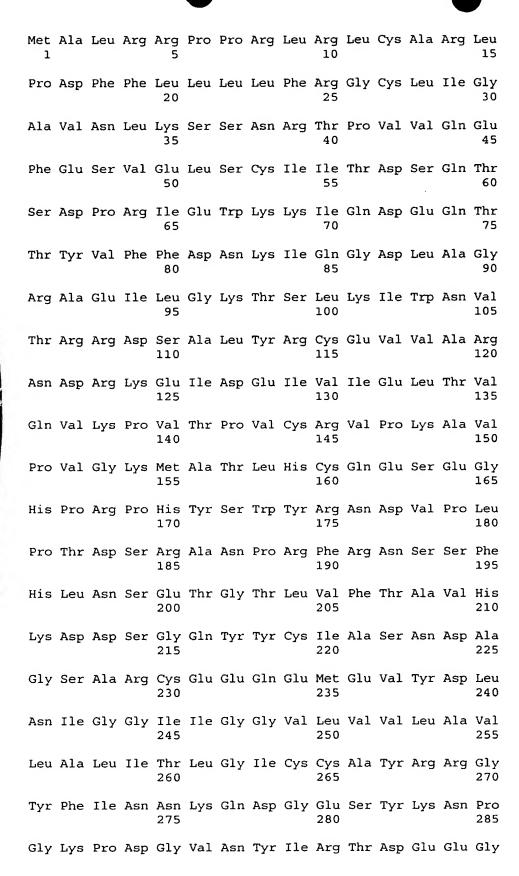
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<213> Homo sapiens

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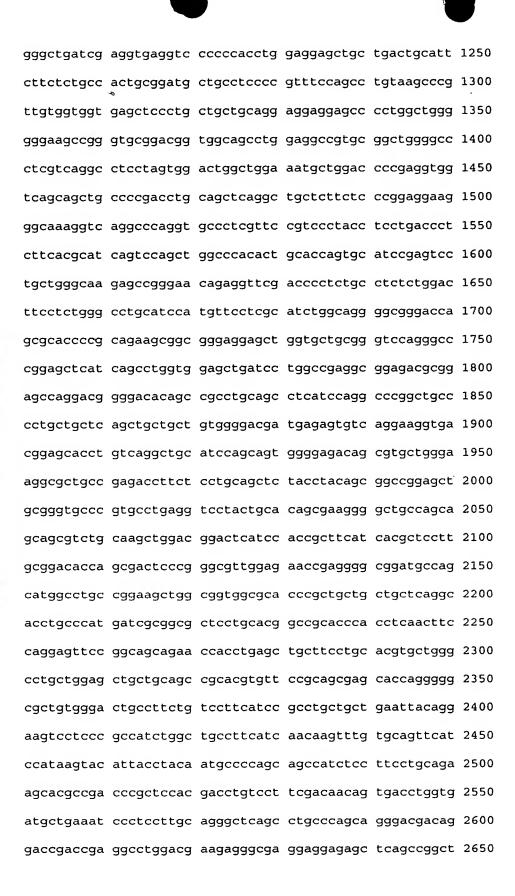
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<211> 1029

<212> PRT

<213> Homo sapiens

<400> 22

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Ile Trp Phe Pro Glu Glu Lys Pro Leu Pro Thr Ala Phe Leu Val 35 40 45

Asp Thr Ser Glu Glu Ala Leu Leu Leu Pro Asp Trp Leu Lys Leu
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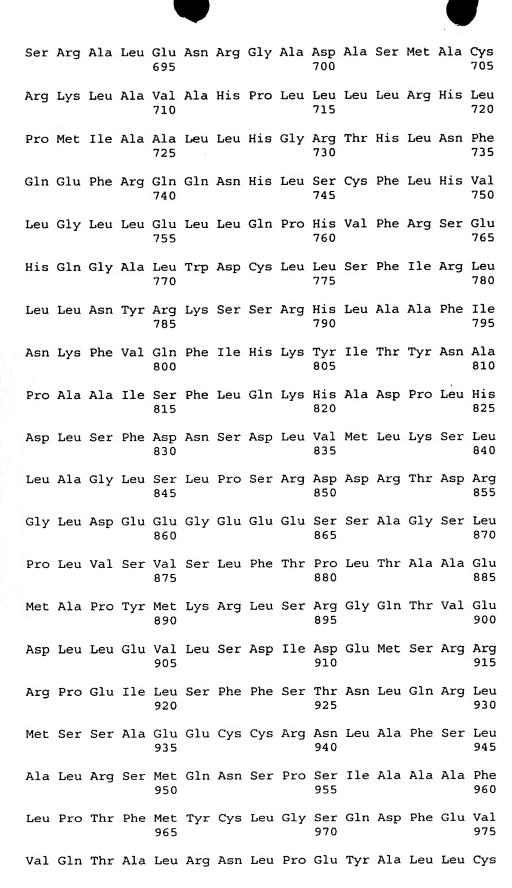
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Gln Ala Val Ala His Asp Pro Gln Thr Leu Glu Gln Asn Ile Met 115 110 Asp Lys Asn Tyr Met Ala His Leu Val Glu Val Gln His Glu Arg 130 125 Gly Ala Ser Gly Gly Gln Thr Phe His Ser Leu Leu Thr Ala Ser Leu Pro Pro Arg Arg Asp Ser Thr Glu Ala Pro Lys Pro Lys Ser Ser Pro Glu Gln Pro Ile Gly Gln Gly Arg Ile Arg Val Gly Thr Gln Leu Arg Val Leu Gly Pro Glu Asp Asp Leu Ala Gly Met Phe Leu Gln Ile Phe Pro Leu Ser Pro Asp Pro Arg Trp Gln Ser Ser Ser Pro Arg Pro Val Ala Leu Ala Leu Gln Gln Ala Leu Gly Gln Glu Leu Ala Arg Val Val Gln Gly Ser Pro Glu Val Pro Gly Ile Thr Val Arg Val Leu Gln Ala Leu Ala Thr Leu Leu Ser Ser Pro 250 His Gly Gly Ala Leu Val Met Ser Met His Arg Ser His Phe Leu Ala Cys Pro Leu Leu Arg Gln Leu Cys Gln Tyr Gln Arg Cys Val Pro Gln Asp Thr Gly Phe Ser Ser Leu Phe Leu Lys Val Leu Leu Gln Met Leu Gln Trp Leu Asp Ser Pro Gly Val Glu Gly Gly Pro Leu Arq Ala Gln Leu Arg Met Leu Ala Ser Gln Ala Ser Ala Gly Arg Arg Leu Ser Asp Val Arg Gly Gly Leu Leu Arg Leu Ala Glu 335 Ala Leu Ala Phe Arg Gln Asp Leu Glu Val Val Ser Ser Thr Val Arg Ala Val Ile Ala Thr Leu Arg Ser Gly Glu Gln Cys Ser Val 365 Glu Pro Asp Leu Ile Ser Lys Val Leu Gln Gly Leu Ile Glu Val 385 Arg Ser Pro His Leu Glu Glu Leu Leu Thr Ala Phe Phe Ser Ala



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Thr	Ala	Asp	Ala	Ala 410	Ser	Pro	Phe	Pro	Ala 415	Cys	Lys	Pro	Val	Val 420
Val	Val	Ser	Ser	Leu 425	Leu	Leu	Gln	Glu	Glu 430	Glu	Pro	Leu	Ala	Gly 435
Gly	Lys	Pro	Gly	Ala 440	Asp	Gly	Gly	Ser	Leu 445	Glu	Ala	Val	Arg	Leu 450
Gly	Pro	Ser	Ser	Gly 455	Leu	Leu	Val	Asp	Trp 460	Leu	Glu	Met	Leu	Asp 465
Pro	Glu	Val	Val	Ser 470	Ser	Cys	Pro	Asp	Leu 475	Gln	Leu	Arg	Leu	Leu 480
Phe	Ser	Arg	Arg	Lys 485	Gly	Lys	Gly	Gln	Ala 490	Gln	Val	Pro	Ser	Phe 495
Arg	Pro	Tyr	Leu	Leu 500	Thr	Leu	Phe	Thr	His 505	Gln	Ser	Ser	Trp	Pro 510
Thr	Leu	His	Gln	Cys 515	Ile	Arg	Val	Leu	Leu 520	Gly	Lys	Ser	Arg	Glu 525
Gln	Arg	Phe	Asp	Pro 530	Ser	Ala	Ser	Leu	Asp 535	Phe	Leu	Trp	Ala	Cys 540
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Arg	Lys	Val	Thr	Glu 620	His	Leu	Ser	Gly	Cys 625	Ile	Gln	Gln	Trp	Gly 630
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Leu	His	Ser	Glu	Gly 665	Ala	Ala	Ser	Ser	Ser 670	Val	Cys	Lys	Leu	Asp 675
Gly	Leu	Ile	His	Arg 680	Phe	Ile	Thr	Leu	Leu 685	Ala	Asp	Thr	Ser	Asp 690





980 985 990

Gln Glu His Ala Ala Val Leu Leu His Arg Ala Phe Leu Val Gly
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<211> 2186

<212> DNA

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Gln Lys Gly Asp Val Val Asp Val Tyr Gln Arg Glu Phe Leu Ala Leu Arg Asp Arg Leu His Ala Ala Glu Gln Glu Ser Leu Lys Arg Ser Lys Glu Leu Asn Leu Val Leu Asp Glu Ile Lys Arg Ala Val Ser Glu Arg Gln Ala Leu Arg Asp Gly Asp Gly Asn Arg Thr Trp Gly Arg Leu Thr Glu Asp Pro Arg Leu Lys Pro Trp Asn Gly Ser His Arg His Val Leu His Leu Pro Thr Val Phe His His Leu Pro 110 His Leu Leu Ala Lys Glu Ser Ser Leu Gln Pro Ala Val Arg Val Gly Gln Gly Arg Thr Gly Val Ser Val Val Met Gly Ile Pro Ser Val Arg Arg Glu Val His Ser Tyr Leu Thr Asp Thr Leu His Ser Leu Ile Ser Glu Leu Ser Pro Gln Glu Lys Glu Asp Ser Val Ile Val Val Leu Ile Ala Glu Thr Asp Ser Gln Tyr Thr Ser Ala Val Thr Glu Asn Ile Lys Ala Leu Phe Pro Thr Glu Ile His Ser Gly Leu Leu Glu Val Ile Ser Pro Ser Pro His Phe Tyr Pro Asp Phe Ser Arg Leu Arg Glu Ser Phe Gly Asp Pro Lys Glu Arg Val Arg Trp Arg Thr Lys Gln Asn Leu Asp Tyr Cys Phe Leu Met Met Tyr Ala Gln Ser Lys Gly Ile Tyr Tyr Val Gln Leu Glu Asp Asp Ile Val Ala Lys Pro Asn Tyr Leu Ser Thr Met Lys Asn Phe Ala Leu Gln Gln Pro Ser Glu Asp Trp Met Ile Leu Glu Phe Ser Gln Leu 295 290 Gly Phe Ile Gly Lys Met Phe Lys Ser Leu Asp Leu Ser Leu Ile Val Glu Phe Ile Leu Met Phe Tyr Arg Asp Lys Pro Ile Asp Trp



				320					325					330
Leu	Leu	Asp	His	Ile 335	Leu	Trp	Val	Lys	Val 340	Cys	Asn	Pro	Glu	Lys 345
Asp	Ala	Lys	His	Cys 350	Asp	Arg	Gln	Lys	Ala 355	Asn	Leu	Arg	Ile	Arg 360
Phe	Lys	Pro	Ser	Leu 365	Phe	Gln	His	Val	Gly 370	Thr	His	Ser	Ser	Leu 375
Ala	Gly	Lys	Ile	Gln 380	Lys	Leu	Lys	Asp	Lys 385	Asp	Phe	Gly	Lys	Gln 390
Ala	Leu	Arg	Lys	Glu 395	His	Val	Asn	Pro	Pro 400	Ala	Glu	Val	Ser	Thr 405
Ser	Leu	Lys	Thr	Tyr 410	Gln	His	Phe	Thr	Leu 415	Glu	Lys	Ala	Tyr	Leu 420
Arg	Glu	Asp	Phe	Phe 425	Trp	Ala	Phe	Thr	Pro 430	Ala	Ala	Gly	Asp	Phe 435
Ile	Arg	Phe	Arg	Phe 440	Phe	Gln	Pro	Leu	Arg 445	Leu	Glu	Arg	Phe	Phe 450
Phe	Arg	Ser	Gly	Asn 455	Ile	Glu	His	Pro	Glu 460	Asp	Lys	Leu	Phe	Asn 465
Thr	Ser	Val	Glu	Val 470	Leu	Pro	Phe	Asp	Asn 475	Pro	Gln	Ser	Asp	Lys 480
Glu	Ala	Leu	Gln	Glu 485	Gly	Arg	Thr	Ala	Thr 490	Leu	Arg	Tyr	Pro	Arg 495
Ser	Pro	Asp	Gly	Tyr 500	Leu	Gln	Ile	Gly	Ser 505	Phe	Tyr	Lys	Gly	Val 510
Ala	Glu	Gly	Glu	Val 515	Asp	Pro	Ala	Phe	Gly 520	Pro	Leu	Glu	Ala	Leu 525
Arg	Leu	Ser	Ile	Gln 530	Thr	Asp	Ser	Pro	Val 535	Trp	Val	Ile	Leu	Ser 540
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